BEFORE THE DEPARTMENT OF
NATURAL RESOURCES AND CONSERVATION
OF THE STATE OF MONTANA

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APPLICATION FOR BENEFICIAL WATER USE PERMIT NO. 42M 30158702 BY KELLY & SUZANNE BERGSTEDT	**)** **)** **)**	**PRELIMINARY DETERMINATION TO GRANT PERMIT**

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On October 27, 2022, Kelly and Suzanne Bergstedt (Applicants) submitted Application for Beneficial Water Use Permit No. 42M 30158702 to the Glasgow Water Resources Office of the Department of Natural Resources and Conservation (Department or DNRC) for 970 GPM and up to 397 AF per year for irrigation. The Department published receipt of the Application on its website. The Department held a Pre-Application Meeting with the Applicants' consultant on October 13, 2022. On November 29, 2022, the Applicants requested a variance from aquifer testing procedures required in ARM 36.12.121(3)(a), (b) and (k), which the Department approved on December 12, 2022. The Department sent Applicant a deficiency letter under § 85-2-302, Montana Code Annotated (MCA), dated November 23, 2022. The Applicants responded with information on November 29, 2022. The Application was determined to be correct and complete as of December 15, 2022. An Environmental Assessment for this Application was completed on December 16, 2022.

INFORMATION

The Department considered the following information submitted by the Applicants, which is contained in the administrative record.

Application as filed:

- Application for Beneficial Water Use Permit, Form 600-GW
- Attachments
    - Pump specification and pivot design
    - Maps depicting the locations of well, pivots and pipelines
- Aquifer Testing Addendum
    - Form 633, Aquifer testing data (electronic)

- Well logs for production and monitoring wells

Information Received after Application Filed

- Deficiency response to DNRC emailed by Justin Candee, consultant, November 29, 2022
- Email to DNRC from the consultant requesting an aquifer testing variance, November 29, 2022

Information within the Department's Possession/Knowledge

- Flow records for USGS Gage # 06329500, Yellowstone River near Sidney, MT. The period of record is from October, 1910 to September, 2021.
- Flow records for USGS Gage # 06329200, Burns Creek near Savage, MT. The period of record is near continuous from October, 1957 to December, 1987.
- Department water right records of existing rights
- Groundwater Permit Report dated December 12, 2022 by DNRC Groundwater Hydrologist, Melissa Brickl.
- Department Technical Report dated December 15, 2022.

The Department has fully reviewed and considered the evidence and argument submitted in this Application and preliminarily determines the following pursuant to the Montana Water Use Act (Title 85, chapter 2, part 3, MCA).

PROPOSED APPROPRIATION

FINDINGS OF FACT

1. The Applicants propose to divert groundwater by means of a well 290 feet deep completed in the Lower Yellowstone Buried Channel Aquifer (LYBCA). The well is located in the SWSWNW Section 5, Township (T) 20N, Range (R) 58E, Richland County. The Applicants plan to divert water from April 1 to October 31 at 970 GPM up to 397 AF per year. The proposed use is irrigation on 198.4 acres with two center pivots in the following places of use:

Acres	Qtr Sec	Sec	Twp	Rge	County
131.4	NW	5	20N	58E	Richland
67	W2SW	5	20N	58E	Richland

2. The point of diversion and place of use are in the Lower Yellowstone River Basin 42M, which is not subject to any basin closure or controlled groundwater area restriction.

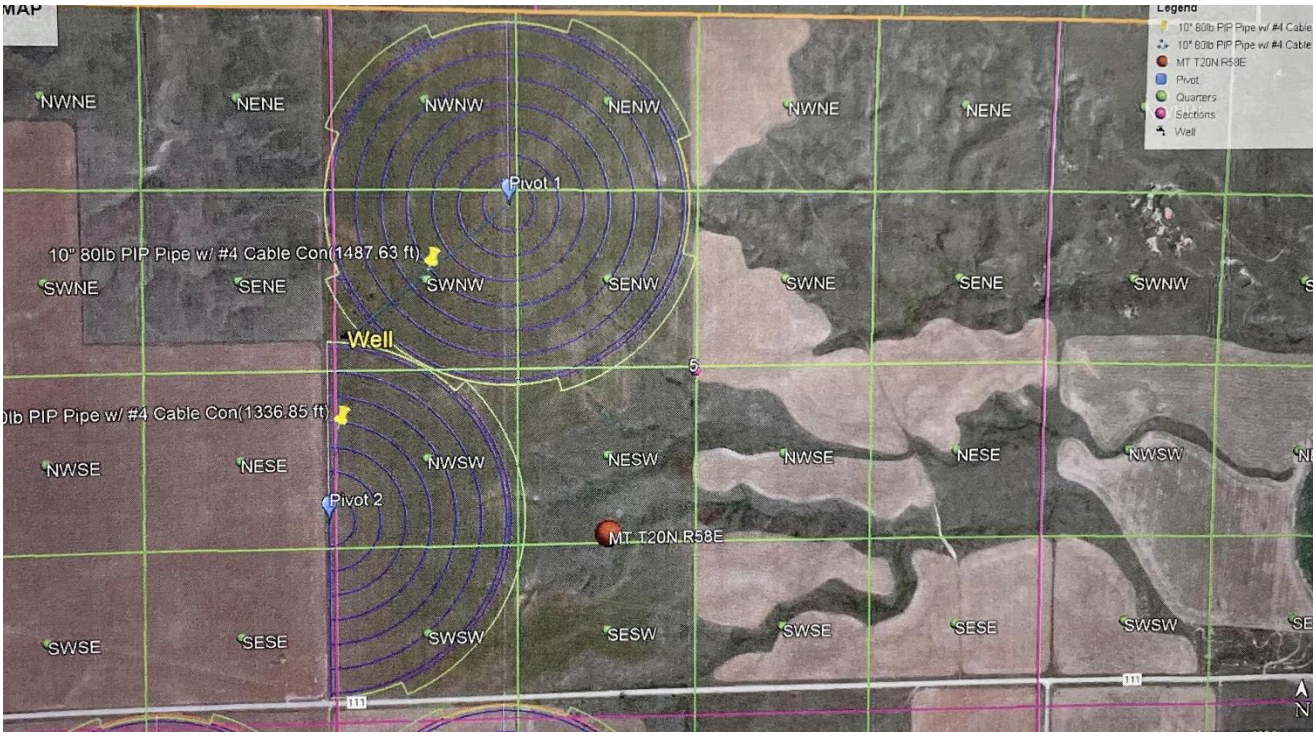

Figure 1: Project location of Permit Application 42M 30158702.

§ 85-2-311, MCA, BENEFICIAL WATER USE PERMIT CRITERIA

GENERAL CONCLUSIONS OF LAW

3. The Montana Constitution expressly recognizes in relevant part that:

> (1) All existing rights to the use of any waters for any useful or beneficial purpose are hereby recognized and confirmed.
> (2) The use of all water that is now or may hereafter be appropriated for sale, rent, distribution, or other beneficial use . . . shall be held to be a public use.
> (3) All surface, underground, flood, and atmospheric waters within the boundaries of the state are the property of the state for the use of its people and are subject to appropriation for beneficial uses as provided by law.

Mont. Const. Art. IX, §3. While the Montana Constitution recognizes the need to protect senior appropriators, it also recognizes a policy to promote the development and use of the waters of the

state by the public. This policy is further expressly recognized in the water policy adopted by the Legislature codified at § 85-2-102, MCA, which states in relevant part:

> (1) Pursuant to Article IX of the Montana constitution, the legislature declares that any use of water is a public use and that the waters within the state are the property of the state for the use of its people and are subject to appropriation for beneficial uses as provided in this chapter. . . .
> (3) It is the policy of this state and a purpose of this chapter to encourage the wise use of the state's water resources by making them available for appropriation consistent with this chapter and to provide for the wise utilization, development, and conservation of the waters of the state for the maximum benefit of its people with the least possible degradation of the natural aquatic ecosystems. In pursuit of this policy, the state encourages the development of facilities that store and conserve waters for beneficial use, for the maximization of the use of those waters in Montana . . .

4. Pursuant to § 85-2-302(1), MCA, except as provided in §§ 85-2-306 and 85-2-369, MCA, a person may not appropriate water or commence construction of diversion, impoundment, withdrawal, or related distribution works except by applying for and receiving a permit from the Department. See § 85-2-102(1), MCA. An applicant in a beneficial water use permit proceeding must affirmatively prove all of the applicable criteria in § 85-2-311, MCA. Section § 85-2-311(1) states in relevant part:

> … the department shall issue a permit if the applicant proves by a preponderance of evidence that the following criteria are met:
> (a) (i) there is water physically available at the proposed point of diversion in the amount that the applicant seeks to appropriate; and
> (ii) water can reasonably be considered legally available during the period in which the applicant seeks to appropriate, in the amount requested, based on the records of the department and other evidence provided to the department. Legal availability is determined using an analysis involving the following factors:
> (A) identification of physical water availability;
> (B) identification of existing legal demands on the source of supply throughout the area of potential impact by the proposed use; and
> (C) analysis of the evidence on physical water availability and the existing legal demands, including but not limited to a comparison of the physical water supply at the proposed point of diversion with the existing legal demands on the supply of water.
> (b) the water rights of a prior appropriator under an existing water right, a certificate, a permit, or a state water reservation will not be adversely affected. In this subsection (1)(b), adverse effect must be determined based on a consideration of an applicant's plan for the exercise of the permit that demonstrates that the applicant's use of the water will be controlled so the water right of a prior appropriator will be satisfied;

(c) the proposed means of diversion, construction, and operation of the appropriation works are adequate;

(d) the proposed use of water is a beneficial use;

(e) the applicant has a possessory interest or the written consent of the person with the possessory interest in the property where the water is to be put to beneficial use, or if the proposed use has a point of diversion, conveyance, or place of use on national forest system lands, the applicant has any written special use authorization required by federal law to occupy, use, or traverse national forest system lands for the purpose of diversion, impoundment, storage, transportation, withdrawal, use, or distribution of water under the permit;

(f) the water quality of a prior appropriator will not be adversely affected;

(g) the proposed use will be substantially in accordance with the classification of water set for the source of supply pursuant to 75-5-301(1); and

(h) the ability of a discharge permit holder to satisfy effluent limitations of a permit issued in accordance with Title 75, chapter 5, part 4, will not be adversely affected.

(2) The applicant is required to prove that the criteria in subsections (1)(f) through (1)(h) have been met only if a valid objection is filed. A valid objection must contain substantial credible information establishing to the satisfaction of the department that the criteria in subsection (1)(f), (1)(g), or (1)(h), as applicable, may not be met. For the criteria set forth in subsection (1)(g), only the department of environmental quality or a local water quality district established under Title 7, chapter 13, part 45, may file a valid objection.

To meet the preponderance of evidence standard, "the applicant, in addition to other evidence demonstrating that the criteria of subsection (1) have been met, shall submit hydrologic or other evidence, including but not limited to water supply data, field reports, and other information developed by the applicant, the department, the U.S. geological survey, or the U.S. natural resources conservation service and other specific field studies." § 85-2-311(5), MCA (emphasis added). The determination of whether an application has satisfied the § 85-2-311, MCA criteria is committed to the discretion of the Department. Bostwick Properties, Inc. v. Montana Dept. of Natural Resources and Conservation, 2009 MT 181, ¶ 21. The Department is required grant a permit only if the § 85-2-311, MCA, criteria are proven by the applicant by a preponderance of the evidence. Id. A preponderance of evidence is "more probably than not." Hohenlohe v. DNRC, 2010 MT 203, ¶¶33, 35.

5. Pursuant to § 85-2-312, MCA, the Department may condition permits as it deems necessary to meet the statutory criteria:

> (1) (a) The department may issue a permit for less than the amount of water requested, but may not issue a permit for more water than is requested or than can be beneficially used without waste for the purpose stated in the application. The department may require modification of plans and specifications for the appropriation or related diversion or construction. The department may issue a permit subject to terms, conditions, restrictions, and limitations it considers necessary to satisfy the criteria listed in 85-2-311 and subject to subsection (1)(b), and it may issue temporary or seasonal permits. A permit must be issued subject to existing rights and any final determination of those rights made under this chapter.

E.g., Montana Power Co. v. Carey (1984), 211 Mont. 91, 96, 685 P.2d 336, 339 (requirement to grant applications as applied for, would result in, "uncontrolled development of a valuable natural resource" which "contradicts the spirit and purpose underlying the Water Use Act."); see also, *In the Matter of Application for Beneficial Water Use Permit No. 65779-76M by Barbara L. Sowers* (DNRC Final Order 1988)(conditions in stipulations may be included if it further compliance with statutory criteria); *In the Matter of Application for Beneficial Water Use Permit No. 42M-80600 and Application for Change of Appropriation Water Right No. 42M-036242 by Donald H. Wyrick* (DNRC Final Order 1994); Admin. R. Mont. (ARM) 36.12.207.

6. The Montana Supreme Court further recognized in Matter of Beneficial Water Use Permit Numbers 66459-76L, Ciotti: 64988-G76L, Starner (1996), 278 Mont. 50, 60-61, 923 P.2d 1073, 1079, 1080, *superseded by legislation on another issue*:

> Nothing in that section [85-2-313], however, relieves an applicant of his burden to meet the statutory requirements of § 85-2-311, MCA, before DNRC may issue that provisional permit. Instead of resolving doubts in favor of appropriation, the Montana Water Use Act requires an applicant to make explicit statutory showings that there are unappropriated waters in the source of supply, that the water rights of a prior appropriator will not be adversely affected, and that the proposed use will not unreasonably interfere with a planned use for which water has been reserved.

See also, Wesmont Developers v. DNRC, CDV-2009-823, First Judicial District Court, *Memorandum and Order* (2011). The Supreme Court likewise explained that:

> .... unambiguous language of the legislature promotes the understanding that the Water Use Act was designed to protect senior water rights holders from encroachment by junior appropriators adversely affecting those senior rights.

Montana Power Co., 211 Mont. at 97-98, 685 P.2d at 340; see also Mont. Const. art. IX §3(1).

7. An appropriation, diversion, impoundment, use, restraint, or attempted appropriation, diversion, impoundment, use, or restraint contrary to the provisions of § 85-2-311, MCA is invalid. An officer, agent, agency, or employee of the state may not knowingly permit, aid, or assist in any manner an unauthorized appropriation, diversion, impoundment, use, or other restraint. A person or corporation may not, directly or indirectly, personally or through an agent, officer, or employee, attempt to appropriate, divert, impound, use, or otherwise restrain or control waters within the boundaries of this state except in accordance with this § 85-2-311, MCA. § 85-2-311(6), MCA.

8. The Department may take notice of judicially cognizable facts and generally recognized technical or scientific facts within the Department's specialized knowledge, as specifically identified in this document. ARM 36.12.221(4).

Physical Availability

FINDINGS OF FACT

Groundwater

9. The Applicants provided an Aquifer Testing Addendum and Aquifer Test Data Form (Form 633) in electronic format. A variance of aquifer testing requirements was requested by the Applicants on November 29, 2022. DNRC Groundwater Hydrologist, Melissa Brickl, completed the Groundwater Permit Report on December 12, 2022.

10. The variance was requested because the Applicants did not pump at a discharge rate in accordance with Form 633, as required by ARM 36.12.121(3)(a) & (b). The Applicants also requested a variance from ARM 36.12.121(3)(k), as they collected drawdown data at one-minute intervals instead of 30-second intervals required during the first ten minutes. DNRC Groundwater Hydrologist, Melissa Brickl, confirmed that she was able to analyze the aquifer properties with the given information provided in Form 633. The variance request was granted on December 12, 2022 by Todd Netto, Regional Manager in Glasgow.

11. The proposed diversion consists of a 12-inch production well completed in the Lower Yellowstone Buried Channel Aquifer (LYBCA). The total depth of the well is 290 feet with a

static water level at 141 feet below top of casing. The monitoring well required as part of the aquifer test is 181 feet from the production well with a static water level of 140 feet below top of casing. The groundwater level data in both wells were collected with In-Situ Level Troll Model 500 vented dataloggers, while the discharge was measured with Seametrics inline magnetic probe-type flow meter.

12. Physical groundwater availability was evaluated by calculating groundwater flux through a zone of influence (ZOI), which is determined by the 0.01-foot drawdown contour. A regional transmissivity (T) value of 27,597 ft^2/day was used by the Department to evaluate physical availability, as it reflects the heterogeneity of the aquifer near the proposed well. Using Theis (1935) solution, a constant pumping rate of 420.5 GPM for the 214 days in the period of diversion, T= 27,597 ft^2/day, and specific yield of 0.1 (Lohman 1972), the 0.01-foot drawdown contour extends 28,000 feet from the Applicants' well. This contour extends past the LYBCA boundaries; therefore, the radius was truncated to 28,000 feet both up- and down-gradient of the Applicants' well and the LYBCA approximate width of 6,200 ft (mapped by Reiten, 2008). Aquifer flux (Q) through the ZOI is determined by the equation **Q=TWi**, where

T=Transmissivity = 27,597 ft^2/day

W= Width of ZOI = 6,200 ft

i = Groundwater gradient = 0.0037 ft/ft (Chandler & Reiten, 2020)

The calculated aquifer flux through the ZOI is 633,075 ft^3/day or 5,305 AF/year. Therefore, the Department finds that 5,305 AF/year is physically available.

CONCLUSIONS OF LAW

13. Pursuant to § 85-2-311(1)(a)(i), MCA, an applicant must prove by a preponderance of the evidence that "there is water physically available at the proposed point of diversion in the amount that the applicant seeks to appropriate."

14. It is the applicant's burden to produce the required evidence. *In the Matter of Application for Beneficial Water Use Permit No. 27665-41I by Anson* (DNRC Final Order 1987) (applicant produced no flow measurements or any other information to show the availability of water;

permit denied); *In the Matter of Application to Change Water Right No. 41H 1223599 by MGRR #1, LLC.*, (DNRC Final Order 2005).

15. An applicant must prove that at least in some years there is water physically available at the point of diversion in the amount the applicant seeks to appropriate. *In the Matter of Application for Beneficial Water Use Permit No. 72662s76G by John Fee and Don Carlson* (DNRC Final Order 1990); *In the Matter of Application for Beneficial Water Use Permit No. 85184s76F by Wills Cattle Co. and Ed McLean* (DNRC Final Order 1994).

16. The Applicants have proven that water is physically available at the proposed point of diversion in the amount Applicants seek to appropriate. § 85-2-311(1)(a)(i), MCA. (FOF 9-12)

Legal Availability:

FINDINGS OF FACT

Groundwater

17. According to the Department's Groundwater Permit Report, twenty legal demands for groundwater exist within the Department's identified zone of influence (ZOI) that are completed in the source aquifer (Table 1). The ZOI, based on 0.01-foot drawdown contour, extends 28,000 feet from the Applicants' well. This contour extends past the LYBCA boundaries; therefore, the radius was truncated to 28,000 feet both up- and down-gradient of the Applicants' well and the LYBCA approximate width of 6,200 ft.

Table 1: Existing Groundwater Rights within Zone of Influence

Water Right Numbers	Flow (GPM)	Volume (AF)	Period of Diversion
42M 37487 00	10	1	01/01 to 12/31
42M 43670 00	12	3.4	01/01 to 12/31
42M 30122885	15	1.53	01/01 to 12/31
42M 30122886	15	1.1	01/01 to 12/31
42M 165286 00	15	0.63	03/01 to 11/30
42M 165288 00	6	1.2	03/01 to 11/30
42M 165280 00	15	0.6	03/01 to 11/30
42M 165285 00	20	1.2	03/01 to 11/30
42M 30110211	750	375	04/01 to 10/31
42M 30150753	950	285	04/01 to 10/31
42M 30114906	850	362	04/01 to 10/31

42M 30106840	720	310	04/01 to 10/31
42M 30116709	900	400	04/01 to 10/31
42M 30072719	1000	342	04/01 to 10/31
42M 30151756	1300	630	04/01 to 10/31
42M 30147170	1420	710	04/01 to 10/31
42M 30123375	800	325	04/01 to 10/31
42M 30047258	900	272	04/01 to 10/31
42M 30021915	35	10	04/01 to 12/01
42M 16331 00	8	2.5	12/21 to 03/20
Total		4034.3	

18. The legal demands within the ZOI total 4,034.3 AF per year. Compared to the aquifer flux of 5,305 AF, 1,271 AF per year remain legally available to appropriate after all existing water rights have been accounted for. Therefore, groundwater is legally available for the proposed appropriation. Table 2 compares the physical groundwater supply, current legal demands, and the Applicants' requested volume. It confirms legal availability:

Table 2: Comparison of Physical Availability, Legal Availability, and Requested Volume

Physical Availability (AF/year)	Existing Legal Demands (AF/year)	Legal Availability= Physical Availability - Existing Legal Demands (AF/year)
5,305	4,034	1,271

Legal Availability (AF/year)	Requested Appropriation (AF/year)	Legal Availability - Requested Appropriation (AF/year)
1,271	397	874

Surface Water

19. Per ARM 36.12.1704 and 36.12.1705, the Department will also determine legal availability in any surface water sources in which water flow could be reduced by any amount as a result of the groundwater appropriation. The proposed well is located 10 miles north of Burns Creek and 4 miles west of the Yellowstone River. The Department has determined that both Burns Creek and Yellowstone River are hydraulically connected to the source aquifer. The December 12, 2022 Groundwater Permit Report by DNRC Groundwater Hydrologist Melissa Brickl identified that surface water depletion by the proposed groundwater pumping of the

Applicant's well will manifest in 1) Burns Creek downstream of the western edge of the northeast quarter of Section 33, T19N, R57E; and 2) the Yellowstone River downstream of the confluence with Burns Creek. The depletions are projected to occur year-round.

20. The Applicants' proposed irrigation would result in the crops consuming 277.9 AF each year. The entire consumed volume of 277.9 AF will be depleted from the surface water of Burns Creek and Yellowstone River. Table 3 shows the monthly volume consumed by crops, and the resulting depletions to Burns Creek and Yellowstone River, by the production well:

Table 3: Consumption and Net Depletions to Yellowstone River and Burns Creek

Month	Consumed Volume (AF)	Depletion to Burns Creek (CFS)	Depletion to Burns Creek (AF)	Depletion to Yellowstone River (CFS)	Depletion to Yellowstone River (AF)
January	0.0	0.05	2.8	0.35	21.2
February	0.0	0.05	2.8	0.39	21.4
March	0.0	0.05	2.8	0.35	21.4
April	0.0	0.05	2.8	0.36	21.1
May	23.1	0.05	2.8	0.34	20.7
June	66.8	0.05	2.8	034	20.2
July	85.5	0.05	2.8	0.32	19.6
August	76.0	0.05	2.8	0.31	19.2
September	26.6	0.05	2.8	0.32	19.1
October	0.0	0.05	2.8	0.32	19.5
November	0.0	0.05	2.8	0.34	20.2
December	0.0	0.05	2.8	0.34	20.8
Total	**277.9**		**33.3**		**244.6**

Source: Burns Creek

21. To determine whether the amount of water to be depleted from Burns Creek is legally available, the Department will first determine its physical availability where depletion is identified to begin. Legal demands in the depleted reach are then subtracted from physical availability.

Burns Creek Physical Availability

22. USGS Gaging Station #06329200, Burns Creek south of Savage, MT, was utilized to quantify the median of mean monthly flows and volumes on Burns Creek during the proposed period of diversion. This gage is located approximately 2 miles upstream of the confluence with the Yellowstone River, and 2 miles downstream of the beginning of the depleted reach. The period of record is near continuous from October, 1957 to December, 1987. Table 4 shows the median of mean monthly flows (CFS) at the gaging station during the year. Median of the mean monthly volumes were calculated by multiplying the median of the mean monthly flow rates in CFS by the number of days in the month by 1.98 AF/CFS/day.

Table 4: Median of the Mean Monthly Gage Data--Burns Creek near Savage, MT						
	January	**February**	**March**	**April**	**May**	**June**
Flow Rate (CFS)	0.40	0.79	14.80	4.82	3.06	4.39
Volume (AF)	24.3	43.6	908.4	286.0	187.5	260.8

	July	**August**	**September**	**October**	**November**	**December**
Flow Rate (CFS)	1.83	0.25	0.22	1.02	0.91	0.66
Volume (AF)	112.3	15.3	13.0	62.6	54.2	40.6

23. The Department projected that depletion will manifest in Burns Creek from the western edge of the NE of Section 33, T19N, R57E down to the confluence with the Yellowstone River. Table 5 lists the intervening water rights between the gage and the top of the depleted reach:

Table 5: Existing Water Rights on Burns Creek in Depleted Reach				
Water Right Numbers	**Flow Rate (CFS)**	**Volume (AF)**	**Twp, Rge & Sec**	**Period of Diversion**
42M 101397-00	0.10	4.6	19N57E Sec 27	1/1 to 12/1
42M 101398-00	1.74	115	19N57E Sec 27	5/1 to 10/31
42M 30142644	0.10	0.1	19N57E Sec 26	1/1 to 12/31

24. Since the gage is downstream of the location where depletion will manifest, intervening water rights are added to the gage data to represent the physical availability of water on Burns Creek at the top of the depleted reach:

	Table 6: Burns Creek Physical Availability-- Flow Rate (CFS)		
	Median Monthly Flow at USGS Gage	**Water Rights between Gage and Top of Depletion**	**Flow Rate Physically Available**
January	0.40	0.20	0.60
February	0.79	0.20	0.99
March	14.80	0.20	15.0
April	4.82	0.20	5.02
May	3.06	1.90	4.96
June	4.39	1.90	6.29
July	1.83	1.90	3.73
August	0.25	1.90	2.15
September	0.22	1.90	2.12
October	1.02	1.90	2.92
November	0.91	0.20	1.11
December	0.66	0.10	0.76

	Table 7: Burns Creek Physical Availability-- Volume (AF)		
	Median Monthly Flow at USGS Gage	**Water Rights between Gage and Top of Depletion**	**Volume Physically Available**
January	24.3	0.5	24.8
February	43.6	0.5	44.1
March	908.4	0.5	908.9
April	286.0	0.5	286.5
May	187.5	19.7	207.2
June	260.8	19.7	280.5
July	112.3	19.7	132.0
August	15.3	19.7	35.0
September	13.0	19.7	32.7
October	62.6	19.7	82.3
November	54.2	0.5	54.7
December	40.6	0.5	41.1

Burns Creek Legal Availability

25. The Department projected that depletion will manifest in Burns Creek from the western edge of the NE of Section 33, T19N, R57E down to the confluence with the Yellowstone River. Table 8 lists the existing surface water rights in this reach. When evaluating criteria for legal availability (per ARM 36.12.1704 & 36.12.1705), existing legal demands are subtracted from physically available water.

Table 8: Legal Demands on Burns Creek in the Depleted Reach

Water Right Number	Flow Rate (CFS)	Volume (AF)	Twp, Rge & Sec	Period of Diversion
42M 101397	0.10	4.6	19N57E Sec 27	1/1 to 12/1
42M 101398	1.74	115	19N57E Sec 27	5/1 to 10/31
42M 30142644	0.10	0.1	19N57E Sec 26	1/1 to 12/31

Table 9: Burns Creek Legal Availability --Flow Rate (CFS)

	Flow Rate Physically Available	Water Rights between Gage and top of Depletion	Flow Rate Legally Available
January	0.60	0.20	0.40
February	0.99	0.20	0.79
March	15.0	0.20	14.80
April	5.02	0.20	4.82
May	4.96	1.90	3.06
June	6.29	1.90	4.39
July	3.73	1.90	1.83
August	2.15	1.90	0.25
September	2.12	1.90	0.22
October	2.92	1.90	1.02
November	1.11	0.20	0.91
December	0.76	0.10	0.66

	Table 10: Burns Creek Legal Availability --Volume (AF)		
	Volume Physically Available	**Water Rights between Gage and top of Depletion**	**Volume Legally Available**
January	24.9	0.5	24.4
February	44.1	0.5	43.6
March	908.9	0.5	908.4
April	286.5	0.5	286.0
May	207.2	19.7	187.5
June	280.5	19.7	260.8
July	132.0	19.7	112.3
August	35.0	19.7	15.3
September	32.7	19.7	13.0
October	82.3	19.7	62.6
November	54.8	0.5	54.3
December	41.1	0.5	40.6

26. The Application requests to divert 397 AF of groundwater per year for irrigation; 33.3 AF will be depleted from Burns Creek annually (see Table 3). The following tables show that legal availability exceeds predicted depletions on Burns Creek for both flow rates and volumes for all months:

	Table 11: Burns Creek After Depletion -- Flow Rate (CFS)		
	Legal Availability	**Depletion**	**After Depletion**
January	0.40	0.05	0.35
February	0.79	0.05	0.74
March	14.80	0.05	14.75
April	4.82	0.05	4.75
May	3.06	0.05	3.01
June	4.39	0.05	4.34
July	1.83	0.05	1.78
August	0.25	0.05	0.2
September	0.22	0.05	0.17

October	1.02	0.05	0.97
November	0.91	0.05	0.86
December	0.66	0.05	0.61

Table 12: Burns Creek After Depletion -- Volume (AF)

	Legal Availability	Depletion	After Depletion
January	24.3	2.8	21.5
February	43.6	2.8	40.8
March	908.4	2.8	905.6
April	286.0	2.8	283.2
May	187.5	2.8	184.7
June	260.8	2.8	258
July	112.3	2.8	109.5
August	15.3	2.8	12.5
September	13.0	2.8	10.2
October	62.6	2.8	59.8
November	54.2	2.8	51.4
December	40.6	2.8	37.8

Source: Yellowstone River

27. To determine whether the amount of water to be depleted on the Yellowstone River is legally available, the Department will first determine its physical availability where depletion is identified to begin. Legal demands in the depleted reach are then subtracted from physical availability.

Yellowstone River Physical Availability

28. USGS Gage #06329500, Yellowstone River near Sidney, MT, was utilized to quantify the median of mean monthly flows and volumes during the proposed period of diversion. This gage is located approximately 20 miles downstream of the Yellowstone River's confluence with

Burns Creek, where net deletion on the River is projected to begin. The period of record for USGS Gage #06329500 is from October, 1910 to September, 2021.

29. Table 13 shows the median of mean monthly flows (CFS) at the gaging station during the year. Median of the mean monthly volumes were calculated by multiplying the median of the mean monthly flow rates in CFS by the number of days in the month by 1.98 AF/CFS/day.

Table 13: Median of the Mean Monthly Gage Data--Yellowstone River at Sidney

	January	February	March	April	May	June
Flow Rate (CFS)	5,590	6,014	9,652	9,132	17,490	40,060
Volume (AF)	343,114	333,416	592,440	542,441	1,073,536	2,379,564

	July	August	September	October	November	December
Flow Rate (CFS)	21400	7516	6789	7812	7299	5877
Volume (AF)	1,313,532	461,332	403,267	479,501	433,561	360,730

30. The Department has determined that surface water depletion by the proposed project will manifest in the Yellowstone River downstream of its confluence with Burns Creek. Table 14 lists the intervening water rights between the gage and the said confluence:

Table 14: Physical Demand on Yellowstone River between the Confluence with Burns Creek and USGS Gage Station on Yellowstone River near Sidney, MT

Water Right #	Flow (CFS)	Volume (AF)	Township/Range	Period of Diversion
42M 119268 00	133	37845	22N59E	04/01 to 10/31
42M 30048245	13	947	21N59E	04/01 to 10/31
42M 119271 00	43	33	21N59E	04/01 to 10/31
42M 89849 00	11	1540	21N59E	04/01 to 10/01
42M 119269 00	133	870	21N59E	04/01 to 10/31
42M 122088 00	6	3225	21N59E	04/01 to 10/31
42M 137599 00	0.1	1.4	21N59E	01/01 to 12/31
42M 5610 00	5	300	21N59E	05/01 to 09/15
42M 16408 00	3	2500	21N58E	04/15 to 10/29

42M 28971 00	2	114	21N58E	04/01 to 11/01
42M 215790 00	22	2184	20N59E	04/01 to 10/31
42M 18838 00	4	500	20N59E	04/01 to 10/31
42M 2137 00	13	1410	20N58E	03/01 to 12/04
42M 122059 00	4	304	20N58E	04/01 to 10/31
42M 11398 00	5	275	20N58E	04/01 to 10/15
42M 18839 00	10	762	20N58E	04/01 to 10/31
42M 22002 00	14	529	20N58E	04/15 to 10/15
42M 122061 00	4	90	20N58E	04/01 to 10/31
42M 115112 00	8	900	19N58E	04/01 to 10/31
42M 10780 00	0.1	3	19N58E	01/01 to 12/31
42M 101415 00	11	3597	19N58E	04/15 to 10/01
42M 114746 00	4	512	19N58E	04/01 to 11/01
42M 101416 00	1	2833	19N58E	04/15 to 10/01
42M 137602 00	0.1	6	19N58E	01/01 to 12/31
42M 30142659	0.1	2	20N59E	01/01 to 12/31
42M 30142660	0.1	1.4	21N58E	01/01 to 12/31
42M 30142661	0.1	1.3	20N58E	01/01 to 12/31
42M 30142662	0.1	2.5	19N58E	01/01 to 12/31
42M 30142663	0.1	0.3	19N58E	01/01 to 12/31
42M 30144363	0.1	2.9	21N58E	01/01 to 12/31

31. Since the gage is downstream of the location where depletion will manifest, intervening water rights are added to the gage data to represent the physical availability of water on the Yellowstone River at the top of the depleted reach:

Table 15: Yellowstone River Physical Availability -- Flow Rate (CFS)

	Median Monthly Flow at Sidney Gage	**Water Rights between Gage and Top of Depletion**	**Flow Rate Physically Available**
January	5,590	0.9	5,591
February	6,014	0.9	6,015
March	9,652	13.9	9,666
April	9,132	444.9	9,577
May	17,490	449.9	17,940

June	40,060	449.9	40,510
July	21,400	449.9	21,850
August	7,516	449.9	7,966
September	6,789	449.9	7,239
October	7,812	407.9	8,220
November	7,299	13.9	7,313
December	5,877	0.9	5,878

Table 16: Yellowstone River Physical Availability -- Volume (AF)

	Median Monthly Volume at Sidney Gage	Water Rights between Gage and Top Depletion	Volume Physically Available
January	343,114	1.6	343,116
February	333,416	1.6	333,418
March	592,440	158.3	592,598
April	542,441	8,869.2	551,310
May	1,073,536	8,929.2	1,082,465
June	2,379,564	8,929.2	2,388,493
July	1,313,532	8,929.2	1,322,461
August	461,332	8,929.2	470,261
September	403,267	8,929.2	412,196
October	479,501	7,452.7	486,953
November	433,561	158.3	433,719
December	360,730	1.6	360,732

Yellowstone River Legal Availability

32. The Department identified that depletion will manifest in the Yellowstone River downstream of its confluence with Burns Creek. Table 17 provides the private water users and conservation district perfected rights in the area of potential impact: The 20-mile reach between the said confluence and the USGS gage. In addition, when evaluating criteria for legal availability (ARM 36.12.1704 & 36.12.1705), a Montana Department of Fish, Wildlife and Parks (FWP) instream flow reservation (Water Right 40S 30017671) will also be subtracted from physically available water.

Table 17: Existing Legal Demands on Yellowstone River in Area of Potential Impact				
Water Right #	**Flow (CFS)**	**Volume (AF)**	**Township/Range**	**Period of Diversion**
42M 119268 00	133	37,845	22N59E	04/01 to 10/31
42M 30048245	13	947	21N59E	04/01 to 10/31
42M 119271 00	43	33	21N59E	04/01 to 10/31
42M 89849 00	11	1,540	21N59E	04/01 to 10/01
42M 119269 00	133	870	21N59E	04/01 to 10/31
42M 122088 00	6	3,225	21N59E	04/01 to 10/31
42M 137599 00	0.1	1.4	21N59E	01/01 to 12/31
42M 5610 00	5	300	21N59E	05/01 to 09/15
42M 16408 00	3	2,500	21N58E	04/15 to 10/29
42M 28971 00	2	114	21N58E	04/01 to 11/01
42M 215790 00	22	2,184	20N59E	04/01 to 10/31
42M 18838 00	4	500	20N59E	04/01 to 10/31
42M 2137 00	13	1,410	20N58E	03/01 to 12/04
42M 122059 00	4	304	20N58E	04/01 to 10/31
42M 11398 00	5	275	20N58E	04/01 to 10/15
42M 18839 00	10	762	20N58E	04/01 to 10/31
42M 22002 00	14	529	20N58E	04/15 to 10/15
42M 122061 00	4	90	20N58E	04/01 to 10/31
42M 115112 00	8	900	19N58E	04/01 to 10/31
42M 10780 00	0.1	3	19N58E	01/01 to 12/31
42M 101415 00	11	3,597	19N58E	04/15 to 10/01
42M 114746 00	4	512	19N58E	04/01 to 11/01
42M 101416 00	1	2,833	19N58E	04/15 to 10/01
42M 137602 00	0.1	6	19N58E	01/01 to 12/31
42M 30142659	0.1	2	20N59E	01/01 to 12/31
42M 30142660	0.1	1.4	21N58E	01/01 to 12/31
42M 30142661	0.1	1.3	20N58E	01/01 to 12/31
42M 30142662	0.1	2.5	19N58E	01/01 to 12/31
42M 30142663	0.1	0.3	19N58E	01/01 to 12/31
42M 30144363	0.1	2.9	21N58E	01/01 to 12/31

	Table 18: Yellowstone River Legal Availability --Flow Rate (CFS)			
	Flow Rate Physically Available	**Downstream Users' Water Rights**	**FWP Instream Right (**40S 30017671)	**Flow Rate Legally Available**
January	5,591	0.9	3,738	1,852
February	6,015	0.9	4,327	1,687
March	9,666	13.9	6,778	2,874
April	9,577	444.9	6,808	2,324
May	17,940	449.9	11,964	5,526
June	40,510	449.9	25,140	14,920
July	21,850	449.9	10,526	10,874
August	7,966	449.9	2,670	4,846
September	7,239	449.9	3,276	3,513
October	8,220	407.9	6,008	1,804
November	7,313	13.9	5,848	1,451
December	5,878	0.9	3,998	1,879

	Table 19: Yellowstone River Legal Availability --Volume (AF)			
	Volume Physically Available	**Downstream Users' Water Rights**	**FWP Instream Right (**40S 30017671)	**Volume Legally Available**
January	343,116	1.6	229,831	113,283
February	333,418	1.6	240,281	93,135
March	592,598	158.3	416,711	175,729
April	551,310	8,869.2	405,031	137,410
May	1,082,465	8,929.2	735,528	338,008
June	2,388,493	8,929.2	1,495,644	883,920
July	1,322,461	8,929.2	647,090	666,442
August	470,261	8,929.2	164,166	297,166
September	412,196	8,929.2	194,917	208,350
October	486,953	7,452.7	369,377	110,124
November	433,719	158.3	347,920	85,641
December	360,732	1.6	245,814	114,916

33. The proposed permit requests to divert 397 AF per year for irrigation; 244.6 AF will be depleted from the Yellowstone River annually (Table 3). The following table shows remaining availability on the Yellowstone River after the predicted monthly depletion:

	Table 20: Yellowstone River After Depletion -- Flow Rate (CFS)		
	Legal Availability	**Depletion**	**After Depletion**
January	1,852	0.35	1,852
February	1,687	0.39	1,687
March	2,874	0.35	2,874
April	2,324	0.36	2,324
May	5,526	0.34	5,526
June	14,920	034	14,920
July	10,874	0.32	10,874
August	4,846	0.31	4,846
September	3,513	0.32	3,513
October	1,804	0.32	1,804
November	1,451	0.34	1,451
December	1,879	0.34	1,879

	Table 21: Yellowstone River After Depletion -- Volume (AF)		
	Legal Availability	**Depletion**	**After Depletion**
January	113,283	21.2	113,262
February	93,135	21.4	93,114
March	175,729	21.4	175,708
April	137,410	21.1	137,389
May	338,008	20.7	337,987
June	883,920	20.2	883,900
July	666,442	19.6	666,422
August	297,166	19.2	297,147
September	208,350	19.1	208,331
October	110,124	19.5	110,105

November	85,641	20.2	85,621
December	114,916	20.8	114,895

34. The Department finds the amount of net depletions identified for Burns Creek and the Yellowstone River to be legally available.

CONCLUSIONS OF LAW

35. Pursuant to § 85-2-311(1)(a), MCA, an applicant must prove by a preponderance of the evidence that:

(ii) water can reasonably be considered legally available during the period in which the applicant seeks to appropriate, in the amount requested, based on the records of the department and other evidence provided to the department. Legal availability is determined using an analysis involving the following factors:

(A) identification of physical water availability;

(B) identification of existing legal demands on the source of supply throughout the area of potential impact by the proposed use; and

(C) analysis of the evidence on physical water availability and the existing legal demands, including but not limited to a comparison of the physical water supply at the proposed point of diversion with the existing legal demands on the supply of water.

E.g., ARM 36.12.101 and 36.12.120; Montana Power Co., 211 Mont. 91, 685 P.2d 336 (Permit granted to include only early irrigation season because no water legally available in late irrigation season); *In the Matter of Application for Beneficial Water Use Permit No. 81705-g76F by Hanson* (DNRC Final Order 1992).

36. It is the applicant's burden to present evidence to prove water can be reasonably considered legally available. Sitz Ranch v. DNRC, DV-10-13390, Fifth Judicial District Court, *Order Affirming DNRC Decision*, (2011) Pg. 7 (the legislature set out the criteria (§ 85-2-311, MCA) and placed the burden of proof squarely on the applicant. The Supreme Court has instructed that those burdens are exacting.); see also Matter of Application for Change of Appropriation Water Rights Nos. 101960-41S and 101967-41S by Royston (1991), 249 Mont. 425, 816 P.2d 1054 (burden of proof on applicant in a change proceeding to prove required criteria); *In the Matter of Application to Change Water Right No. 41H 1223599 by MGRR #1, LLC.*, (DNRC Final Order 2005))(it is the applicant's burden to produce the required evidence.); *In the Matter of*

Application for Beneficial Water Use Permit No. 41H 30023457 by Utility Solutions, LLC (DNRC Final Order 2007)(permit denied for failure to prove legal availability); see also ARM 36.12.1705.

37. Pursuant to Montana Trout Unlimited v. DNRC, 2006 MT 72, 331 Mont. 483, 133 P.3d 224, the Department recognizes the connectivity between surface water and ground water and the effect of pre-stream capture on surface water. E.g., Wesmont Developers v. DNRC, CDV-2009-823, Montana First Judicial District Court, *Memorandum and Order*, (2011) Pgs. 7-8; *In the Matter of Beneficial Water Use Permit Nos. 41H 30012025 and 41H 30013629 by Utility Solutions LLC* (DNRC Final Order 2006)(mitigation of depletion required), *affirmed*, Faust v. DNRC et al., Cause No. CDV-2006-886, Montana First Judicial District (2008); see also Robert and Marlene Takle v. DNRC *et al.*, Cause No. DV-92-323, Montana Fourth Judicial District for Ravalli County, *Opinion and Order* (June 23, 1994) (affirming DNRC denial of Applications for Beneficial Water Use Permit Nos. 76691-76H, 72842-76H, 76692-76H and 76070-76H; underground tributary flow cannot be taken to the detriment of other appropriators including surface appropriators and ground water appropriators must prove unappropriated surface water, *citing* Smith v. Duff, 39 Mont. 382, 102 P. 984 (1909), and Perkins v. Kramer, 148 Mont. 355, 423 P.2d 587 (1966)); *In the Matter of Beneficial Water Use Permit No. 80175-s76H by Tintzman* (DNRC Final Order 1993)(prior appropriators on a stream gain right to natural flows of all tributaries in so far as may be necessary to afford the amount of water to which they are entitled, *citing* Loyning v. Rankin (1946), 118 Mont. 235, 165 P.2d 1006; Granite Ditch Co. v. Anderson (1983), 204 Mont. 10, 662 P.2d 1312; Beaverhead Canal Co. v. Dillon Electric Light & Power Co. (1906), 34 Mont. 135, 85 P. 880); *In the Matter of Beneficial Water Use Permit No.* 63997-*42M by Joseph F. Crisafulli* (DNRC Final Order 1990)(since there is a relationship between surface flows and the ground water source proposed for appropriation, and since diversion by applicant's well appears to influence surface flows, the ranking of the proposed appropriation in priority must be as against all rights to surface water as well as against all groundwater rights in the drainage.) Because the applicant bears the burden of proof as to legal availability, the applicant must prove that the proposed appropriation will not result in prestream capture or induced infiltration and cannot limit its analysis to ground water. § 85-2-311(a)(ii),

MCA. Absent such proof, the applicant must analyze the legal availability of surface water in light of the proposed ground water appropriation. *In the Matter of Application for Beneficial Water Use Permit No. 41H 30023457 By Utility Solutions LLC* (DNRC Final Order 2007) (permit denied); *In the Matter of Application for Beneficial Water Use Permit No. 76H-30028713 by Patricia Skergan and Jim Helmer* (DNRC Final Order 2009); Sitz Ranch v. DNRC, DV-10-13390, Fifth Judicial District Court, *Order Affirming DNRC Decision*, (2011) Pg. 5 ; Wesmont Developers v. DNRC, CDV-2009-823, First Judicial District Court, *Memorandum and Order*, (2011) Pgs. 11-12.

38. Where a proposed ground water appropriation depletes surface water, applicant must prove legal availability of amount of depletion of surface water throughout the period of diversion either through a mitigation /aquifer recharge plan to offset depletions or by analysis of the legal demands on, and availability of, water in the surface water source. Robert and Marlene Takle v. DNRC *et al.*, Cause No. DV-92-323, Montana Fourth Judicial District for Ravalli County, *Opinion and Order* (June 23, 1994); *In the Matter of Beneficial Water Use Permit Nos. 41H 30012025 and 41H 30013629 by Utility Solutions LLC* (DNRC Final Order 2006)(permits granted), *affirmed*, Faust v. DNRC et al., Cause No. CDV-2006-886, Montana First Judicial District (2008); *In the Matter of Application for Beneficial Water Use Permit 41H 30019215 by Utility Solutions LLC* (DNRC Final Order 2007*)*(permit granted), *affirmed*, Montana River Action Network et al. v. DNRC et al., Cause No. CDV-2007-602, Montana First Judicial District (2008); *In the Matter of Application for Beneficial Water Use Permit No. 41H 30023457 by Utility Solutions LLC* (DNRC Final Order 2007) (permit denied for failure to analyze legal availability outside of irrigation season (where mitigation applied)); *In the Matter of Application for Beneficial Water Use Permit No. 41H 30026244 by Utility Solutions LLC* (DNRC Final Order 2008); *In the Matter of Application for Beneficial Water Use Permit No. 76H-30028713 by Patricia Skergan and Jim Helmer* (DNRC Final Order 2009)(permit denied in part for failure to analyze legal availability for surface water depletion); Sitz Ranch v. DNRC, DV-10-13390, Fifth Judicial District Court, *Order Affirming DNRC Decision*, (2011) Pg. 5 (Court affirmed denial of permit in part for failure to prove legal availability of stream depletion to slough and Beaverhead River); Wesmont Developers v. DNRC, CDV-2009-823, First Judicial District

Court, *Memorandum and Order*, (2011) Pgs. 11-12 ("DNRC properly determined that Wesmont cannot be authorized to divert, either directly or indirectly, 205.09 acre-feet from the Bitterroot River without establishing that the water does not belong to a senior appropriator"; applicant failed to analyze legal availability of surface water where projected surface water depletion from groundwater pumping); *In the Matter of Application for Beneficial Water Use Permit No. 76D-30045578 by GBCI Other Real Estate, LLC* (DNRC Final Order 2011) (in an open basin, applicant for a new water right can show legal availability by using a mitigation/aquifer recharge plan or by showing that any depletion to surface water by groundwater pumping will not take water already appropriated; development next to Lake Koocanusa will not take previously appropriated water). Applicant may use water right claims of potentially affected appropriators as a substitute for "historic beneficial use" in analyzing legal availability of surface water under § 85-2-360(5), MCA. Royston, supra.

39. Applicants have proven by a preponderance of the evidence that water can reasonably be considered legally available during the period in which the applicants seek to appropriate, in the amount requested, based on the records of the Department and other evidence provided to the Department. § 85-2-311(1)(a)(ii), MCA. (FOF 17-34)

Adverse Effect

FINDINGS OF FACT

40. Water is physically and legally available for both groundwater and hydraulically connected surface waters in all months of the proposed period of diversion. The Applicants will install a Seametrics flow meter on the well to monitor the flow rate and prevent appropriation of water over the requested amount.

41. The drawdown in existing LYBCA wells was modeled under the proposed conditions using the following inputs: Theis (1935) solution, T = 31,510 ft^2 /day, S_y = 0.1 (Lohman, 1972). After pumping for five years, drawdown in excess of 1-ft will extend 1,900 feet from the production well. There are zero water rights located within this 1-ft drawdown contour.

42. If a valid call is made on the water, the Applicants will make the necessary adjustments, including cessation of diversion, to ensure that senior water rights are satisfied.

43. The Department finds there will be no adverse effect because the amount of water requested is legally available and the Applicants' plan to curtail appropriation during times of water shortage is adequate.

CONCLUSIONS OF LAW

44. Pursuant to § 85-2-311(1)(b), MCA, the Applicant bears the affirmative burden of proving by a preponderance of the evidence that the water rights of a prior appropriator under an existing water right, a certificate, a permit, or a state water reservation will not be adversely affected. Analysis of adverse effect must be determined based on a consideration of an applicant's plan for the exercise of the permit that demonstrates that the applicant's use of the water will be controlled so the water right of a prior appropriator will be satisfied. See Montana Power Co. (1984), 211 Mont. 91, 685 P.2d 336 (purpose of the Water Use Act is to protect senior appropriators from encroachment by junior users); Bostwick Properties, Inc. ¶ 21.

45. An applicant must analyze the full area of potential impact under the § 85-2-311, MCA criteria. *In the Matter of Beneficial Water Use Permit No. 76N-30010429 by Thompson River Lumber Company* (DNRC Final Order 2006). While § 85-2-361, MCA, limits the boundaries expressly required for compliance with the hydrogeologic assessment requirement, an applicant is required to analyze the full area of potential impact for adverse effect in addition to the requirement of a hydrogeologic assessment. Id. ARM 36.12.120(8).

46. Applicant must prove that no prior appropriator will be adversely affected, not just the objectors. Sitz Ranch v. DNRC, DV-10-13390, Fifth Judicial District Court, *Order Affirming DNRC Decision,* (2011) Pg. 4.

47. In analyzing adverse effect to other appropriators, an applicant may use the water rights claims of potentially affected appropriators as evidence of their "historic beneficial use." See Matter of Application for Change of Appropriation Water Rights Nos. 101960-41S and 101967-41S by Royston (1991), 249 Mont. 425, 816 P.2d 1054.

48. It is the applicant's burden to produce the required evidence. E.g., Sitz Ranch v. DNRC, DV-10-13390, Fifth Judicial District Court, *Order Affirming DNRC Decision,* (2011) Pg. 7 (legislature has placed the burden of proof squarely on the applicant); *In the Matter of*

Application to Change Water Right No. 41H 1223599 by MGRR #1, LLC., (DNRC Final Order 2005). (DNRC Final Order 2005). The Department is required to grant a permit only if the § 85-2-311, MCA, criteria are proven by the applicant by a preponderance of the evidence. Bostwick Properties, Inc. ¶ 21.

49. Section 85-2-311 (1)(b) of the Water Use Act does not contemplate a de minimis level of adverse effect on prior appropriators. Wesmont Developers v. DNRC, CDV-2009-823, First Judicial District Court, *Memorandum and Order*, (2011) Pg. 8.

50. The Applicant has proven by a preponderance of the evidence that the water rights of a prior appropriator under an existing water right, a certificate, a permit, or a state water reservation will not be adversely affected. § 85-2-311(1)(b), MCA. (FOF 40-43)

Adequate Diversion

FINDINGS OF FACT

51. The well was pump tested by Agri-Industries of Williston, North Dakota for 72 hours in order to meet the requirements of ARM 36.12.121. During the test, discharge rate varied between 954 and 974 GPM but most consistently recorded at 970 GPM during 69 of the 72 hours. Agri-Industries also designed, and will construct, the diversion and pivot structures.

52. Water will be diverted by a 12-inch well 290 ft deep, with a static water level at 141 ft. The well is equipped with a Gould 9RCHC 2-stage submersible pump with 125hp electric motor, set at 210 ft. The well will operate at 970 GPM and 330 ft of head. The well will be equipped with a Seametrics flow meter as well as a chemigation check valve to prevent water from backflowing into the well. Water will then then be conveyed to two center pivots via 10-inch underground pipelines: 1,525 ft northeast to the Pivot 1, and 1,339 ft south to the Pivot 2. Pivot 1 covers 131.4 acres and the Pivot 2 cover 67 acres.

53. The pivots will use Nelson R3030 rotators on hose drops with 5-ft ground clearance. The irrigation system is designed to run one pivot at a time, with a gear-controlled valve opening or closing at each pivot point. The pivot sends a signal via buried wires to turn the pump on or off. The Seametrics flow meter will monitor the flow rate and volume of water usage. Detailed design specifications for the system can be found in the file.

54. The Applicants propose the following irrigation schedule: Pivot 2 distributes 0.7 inches in 23.3 hours; the system rests for 12 hours, then Pivot 1 distributes 0. 75 inches in 46.7 hours. The system will rest for 24 hours and the cycle repeats. This schedule is consistent with the requested diversion of 397 AF--approximately 2 feet of water per acre—during the growing season. The Applicants will adjust the schedule according to weather conditions and/or crop demands.

55. According to the Groundwater Permit Report, the proposed well could experience 46.2 feet of drawdown after the first year, leaving approximately 74.6 ft of available water column above its bottom.

56. The Department finds the diversion means and operation adequate for the proposed irrigation.

CONCLUSIONS OF LAW

57. Pursuant to § 85-2-311(1)(c), MCA, an Applicant must demonstrate that the proposed means of diversion, construction, and operation of the appropriation works are adequate.

58. The adequate means of diversion statutory test merely codifies and encapsulates the case law notion of appropriation to the effect that the means of diversion must be reasonably effective, i.e., must not result in a waste of the resource. *In the Matter of Application for Beneficial Water Use Permit No. 33983s41Q by Hoyt* (DNRC Final Order 1981); § 85-2-312(1)(a), MCA.

59. Applicants have proven by a preponderance of the evidence that the proposed means of diversion, construction, and operation of the appropriation works are adequate for the proposed beneficial use. § 85-2-311(1)(c), MCA (FOF 51-56).

Beneficial Use

FINDINGS OF FACT

60. The purpose of this application is irrigation. The place of use is currently in dryland farming. With sprinkler irrigation, the Applicants will benefit by having the ability to grow high-value crops with reliable water supply. The Applicants propose to irrigate 198.4 acres by diverting groundwater at 970 GPM up to 397 AF from April 1 to October 31.

61. The Applicants will practice crop rotation. One pivot will grow a crop such as corn or alfalfa with high water demand one year, while the other will grow a crop with lower water demand such as wheat or hay barley. If alfalfa is not part of the rotation, crops will alternate the following season. If alfalfa is grown, crops will alternate every five years. The requested volume of 397 AF over 198.4 acres, or 2 AF per acre, meets the Department's standard for sprinkler irrigation for an alfalfa-wheat rotation in Climatic Area II. The requested flow rate was determined based on the design specifications of the system and the capacity of the well.

CONCLUSIONS OF LAW

62. Under § 85-2-311(1)(d), MCA, an Applicant must prove by a preponderance of the evidence the proposed use is a beneficial use.

63. An appropriator may appropriate water only for a beneficial use. See also, § 85-2-301 MCA. It is a fundamental premise of Montana water law that beneficial use is the basis, measure, and limit of the use. E.g., McDonald, supra; Toohey v. Campbell (1900), 24 Mont. 13, 60 P. 396. The amount of water under a water right is limited to the amount of water necessary to sustain the beneficial use. E.g., Bitterroot River Protective Association v. Siebel, *Order on Petition for Judicial Review*, Cause No. BDV-2002-519, Montana First Judicial District Court, Lewis and Clark County (2003), *affirmed on other grounds*, 2005 MT 60, 326 Mont. 241, 108 P.3d 518; *In The Matter Of Application For Beneficial Water Use Permit No. 43C 30007297 by Dee Deaterly* (DNRC Final Order), *affirmed other grounds*, Dee Deaterly v. DNRC *et al*, Cause No. 2007-186, Montana First Judicial District, *Order Nunc Pro Tunc on Petition for Judicial Review* (2009); Worden v. Alexander (1939), 108 Mont. 208, 90 P.2d 160; Allen v. Petrick (1924), 69 Mont. 373, 222 P. 451; *In the Matter of Application for Beneficial Water Use Permit No. 41S-105823 by French* (DNRC Final Order 2000).

64. Amount of water to be diverted must be shown precisely. Sitz Ranch v. DNRC, DV-10-13390, Fifth Judicial District Court, *Order Affirming DNRC Decision*, (2011) Pg. 3 (citing BRPA v. Siebel, 2005 MT 60, and rejecting applicant's argument that it be allowed to appropriate 800 acre-feet when a typical year would require 200-300 acre-feet).

65. It is the applicant's burden to produce the required evidence. Sitz Ranch v. DNRC, DV-10-13390, Fifth Judicial District Court, *Order Affirming DNRC Decision*, (2011) Pg. 7; *In the Matter of Application to Change Water Right No. 41H 1223599 by MGRR #1, LLC.*, (DNRC Final Order 2005); see also Royston; Ciotti.

66. Applicant proposes to use water for irrigation which is a recognized beneficial use. § 85-2-102(5), MCA. Applicant has proven by a preponderance of the evidence irrigation is a beneficial use and that 397 AF of diverted volume and 970 GPM of water requested is the amount needed to sustain the beneficial use. § 85-2-311(1)(d), MCA. (FOF 60-61)

Possessory Interest

FINDINGS OF FACT

67. The Applicants signed the application form affirming the applicants have possessory interest, or the written consent of the person with the possessory interest, in the property where the water is to be put to beneficial use.

CONCLUSIONS OF LAW

68. Pursuant to § 85-2-311(1)(e), MCA, an Applicant must prove by a preponderance of the evidence that it has a possessory interest or the written consent of the person with the possessory interest in the property where the water is to be put to beneficial use, or if the proposed use has a point of diversion, conveyance, or place of use on national forest system lands, the applicant has any written special use authorization required by federal law to occupy, use, or traverse national forest system lands for the purpose of diversion, impoundment, storage, transportation, withdrawal, use, or distribution of water under the permit.

69. Pursuant to ARM 36.12.1802:

> (1) An applicant or a representative shall sign the application affidavit to affirm the following:
> (a) the statements on the application and all information submitted with the application are true and correct and
> (b) except in cases of an instream flow application, or where the application is for sale, rental, distribution, or is a municipal use, or in any other context in which water is being supplied to another and it is clear that the ultimate user will not accept the supply without consenting to the use of water on the user's place of use, the applicant has possessory

interest in the property where the water is to be put to beneficial use or has the written consent of the person having the possessory interest.
(2) If a representative of the applicant signs the application form affidavit, the representative shall state the relationship of the representative to the applicant on the form, such as president of the corporation, and provide documentation that establishes the authority of the representative to sign the application, such as a copy of a power of attorney.
(3) The department may require a copy of the written consent of the person having the possessory interest.

70. The Applicants have proven by a preponderance of the evidence that it has a possessory interest, or the written consent of the person with the possessory interest, in the property where the water is to be put to beneficial use. § 85-2-311(1)(e), MCA. (FOF 67)

PRELIMINARY DETERMINATION

Subject to the terms, analysis, and conditions in this Order, the Department preliminarily determines that this Application for Beneficial Water Use Permit No. 42M 30158702 should be GRANTED.

The Department determines the Applicants may divert groundwater, by means of a well 290 feet deep, in the SWSWNW Section 5, T20N, R58E, Richland County. Diversion is for 970 GPM up to 397 AF per year, from April 1 to October 31. The beneficial use is sprinkler irrigation on 198.4 acres from April 1 to October 31 in the following places of use:

Acres	Qtr Sec	Sec	Twp	Rge	County
131.4	NW	5	20N	58E	Richland
67	W2SW	5	20N	58E	Richland

NOTICE

This Department will provide public notice of this Application and the Department's Preliminary Determination to Grant pursuant to §§ 85-2-307, MCA. The Department will set a deadline for objections to this Application pursuant to §§ 85-2-307, and -308, MCA. If this Application receives no valid objection or all valid objections are unconditionally withdrawn, the Department will grant this Application as herein approved. If this Application receives a valid

objection, the application and objection will proceed to a contested case proceeding pursuant to Title 2 Chapter 4 Part 6, MCA, and § 85-2-309, MCA. If valid objections to an application are received and withdrawn with stipulated conditions and the department preliminarily determined to grant the permit or change in appropriation right, the department will grant the permit or change subject to conditions necessary to satisfy applicable criteria.

DATED this 20th day of January, 2023.

/Original signed by Todd Netto/
Todd Netto, Regional Manager
Glasgow Regional Office
Department of Natural Resources and Conservation

CERTIFICATE OF SERVICE

This certifies that a true and correct copy of the PRELIMINARY DETERMINATION TO GRANT was served upon all parties listed below on this 20th day of January, 2023, by first class United States mail.

KELLY AND SUZANNE BERGSTEDT
33847 COUNTY RD 111
SAVAGE, MT 59262

JUSTIN CANDEE
1775 S. CENTRAL AVE.
SIDNEY, MT 59270

_____ _____

NAME DATE